

Transition Metal-Based Polyoxometalates for Oxygen Electrode Bifunctional Electrocatalysis

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Supplementary Data

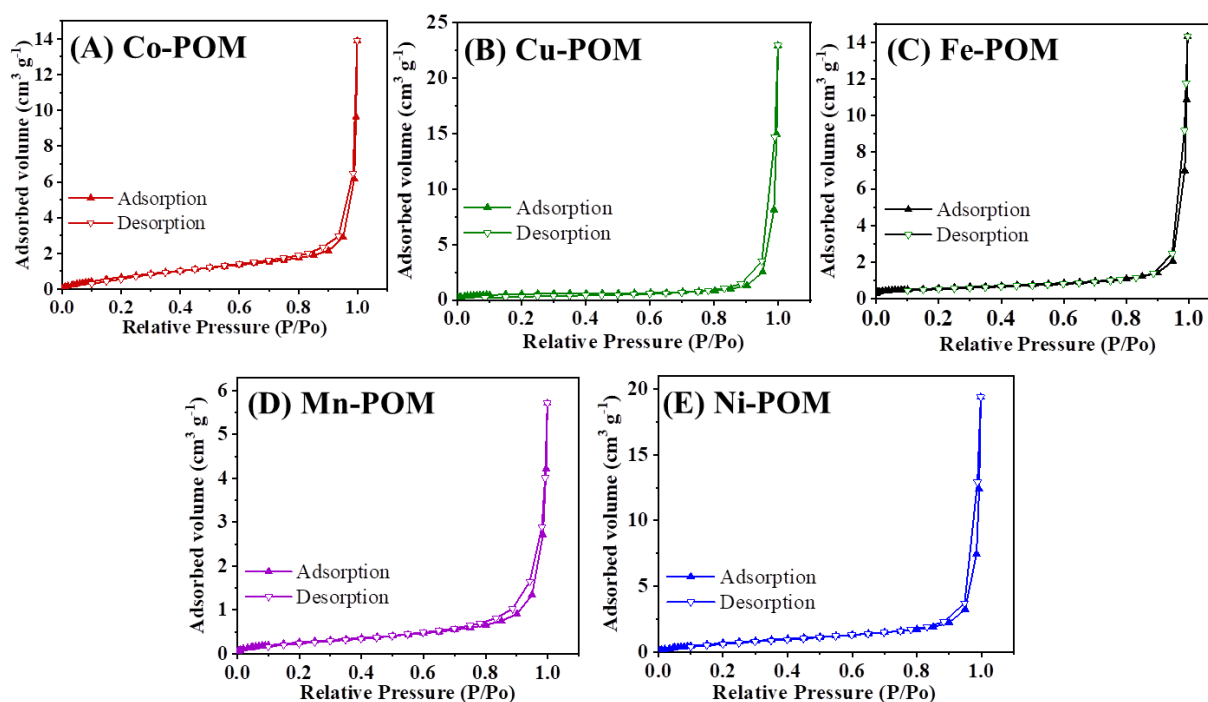


Figure S1. N₂-adsorption–desorption isotherms of (a) Co-POM, (b) Cu-POM, (c) Fe-POM, (d) Mn-POM, and (f) Ni-POM.

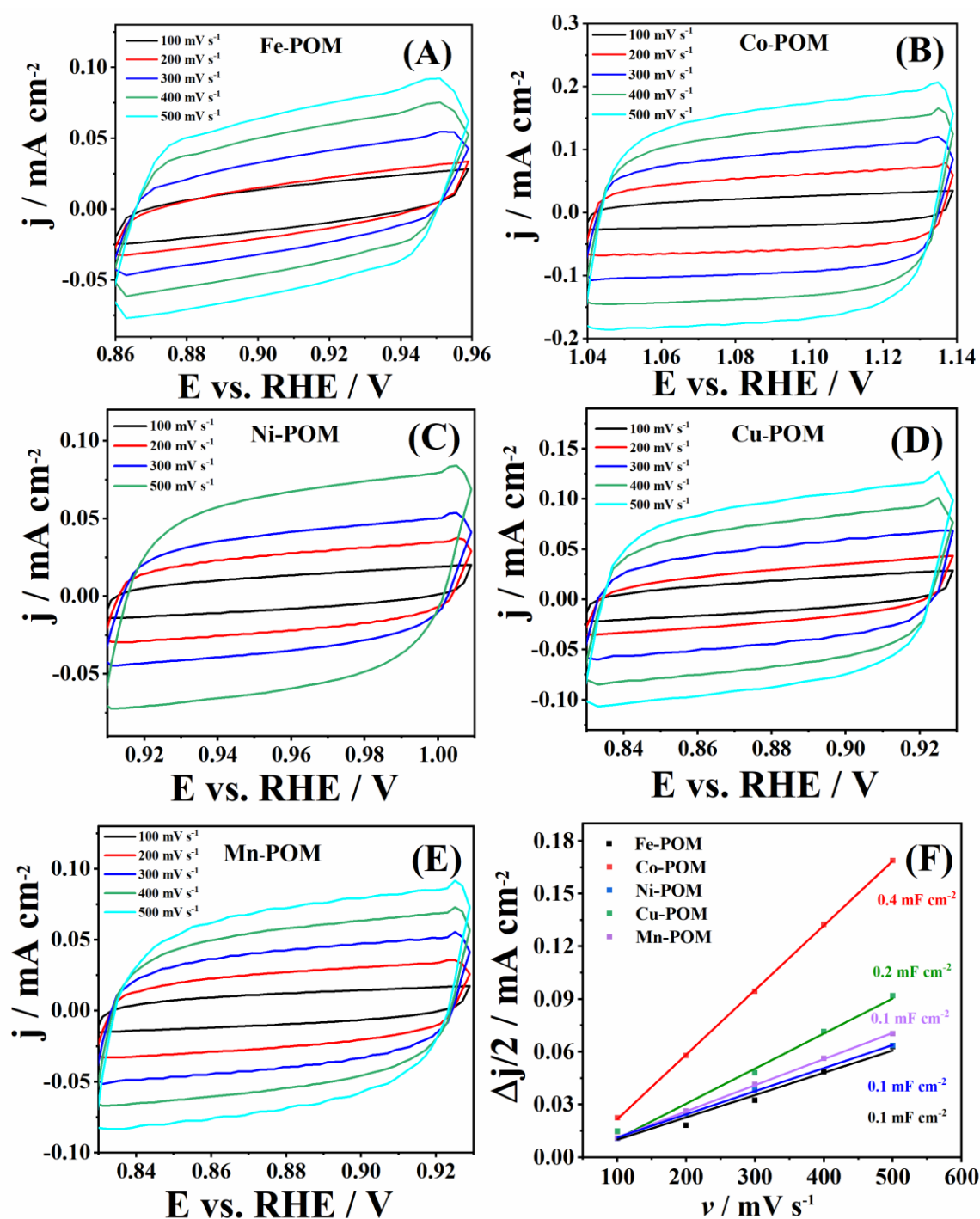


Figure S2. Voltammograms of Fe-POM (A), Co-POM (B), Ni-POM (C), Cu-POM (D), and Mn-POM (E) in N_2 -saturated 1 M KOH solution at different scan rates (100 to 500 $mV\ s^{-1}$) and corresponding double-layer capacitance plots (F).

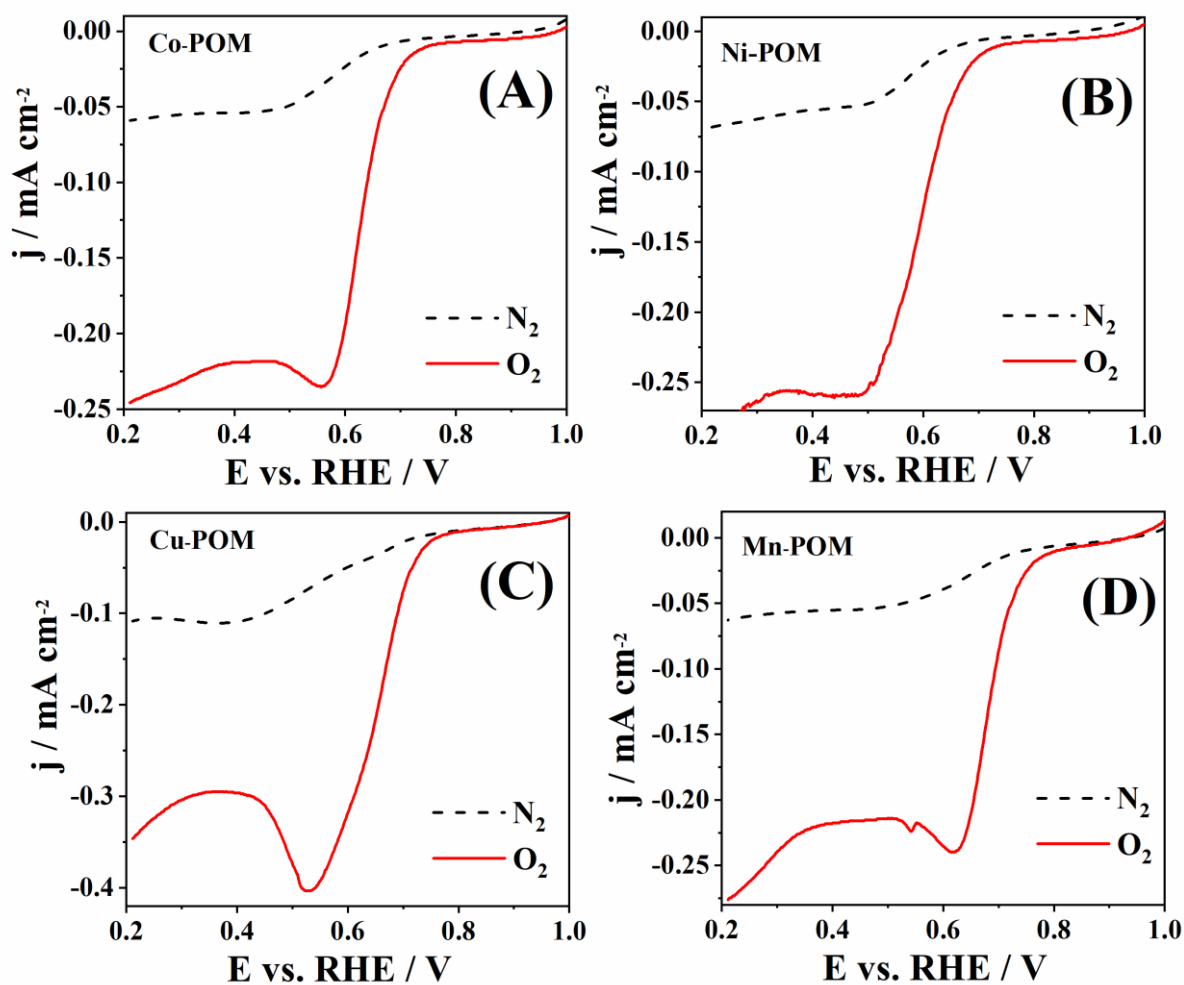


Figure S3. Voltammograms of Co-POM (A), Ni-POM (B), Cu-POM (C), and Mn-POM (D) in N_2 - and O_2 -saturated 1 M KOH solution.

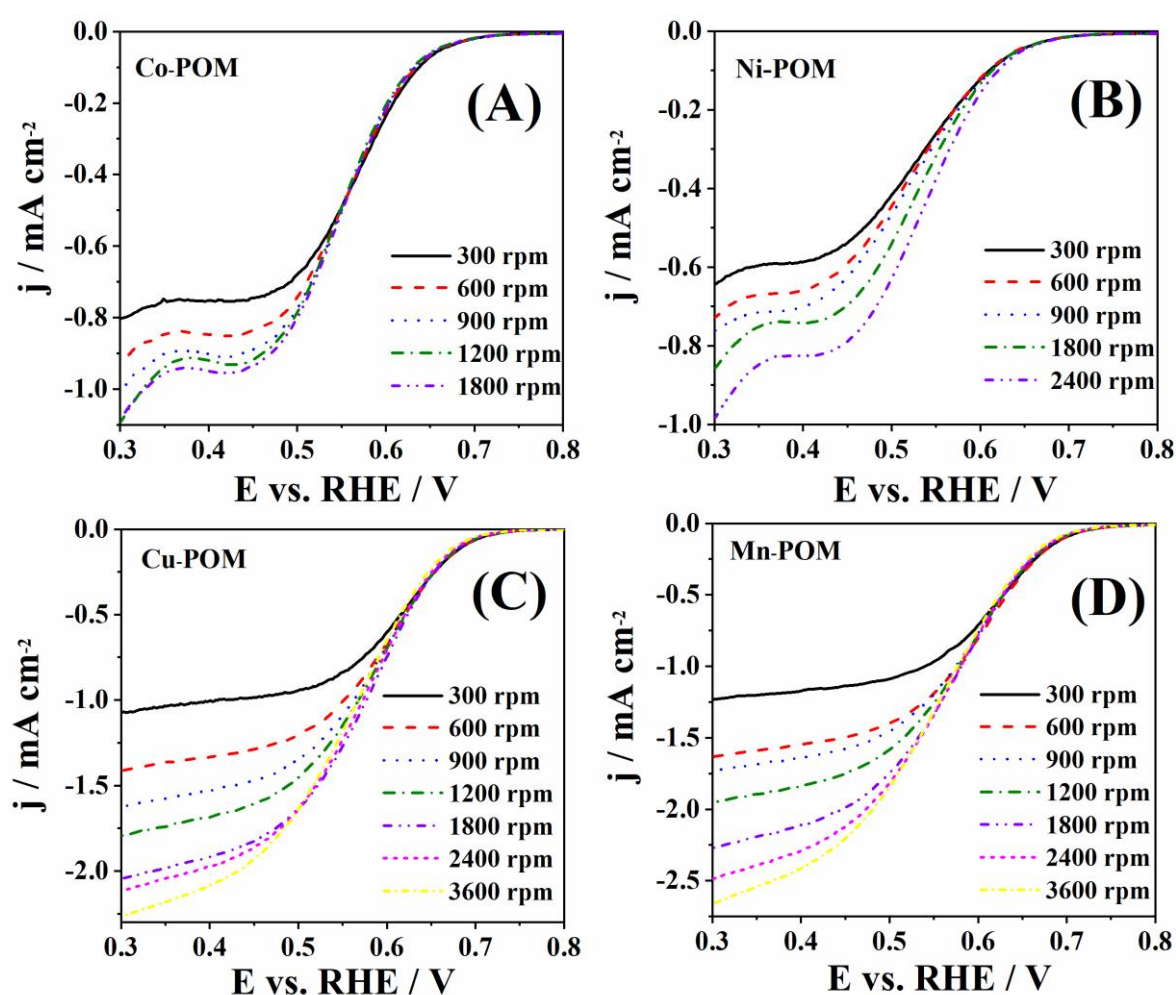


Figure S4. Voltammograms of Co-POM (A), Ni-POM (B), Cu-POM (C), and Mn-POM (D) at different rotation rates in O₂-saturated 1 M KOH solution.

Table S1. Specific capacitance of TM-POM in 3 M KOH and 1 M H₂SO₄.

Scan Rate (mV s ⁻¹)	Average specific capacitance (F g ⁻¹)					
	3 M KOH		1 M H ₂ SO ₄			
	Co-POM	Co-POM	Mn-POM	Cu-POM	Ni-POM	Fe-POM
5	51.6	47.6	37.0	32.8	27.3	25.9
10	47.2	45.6	36.4	32.2	26.5	24.0
20	40.8	44.0	35.5	31.0	26.0	22.7
50	31.9	40.8	33.6	28.6	23.7	20.6
100	25.8	38.0	24.1	27.0	22.4	18.8
200	20.2	34.2	22.4	25.0	20.9	16.6

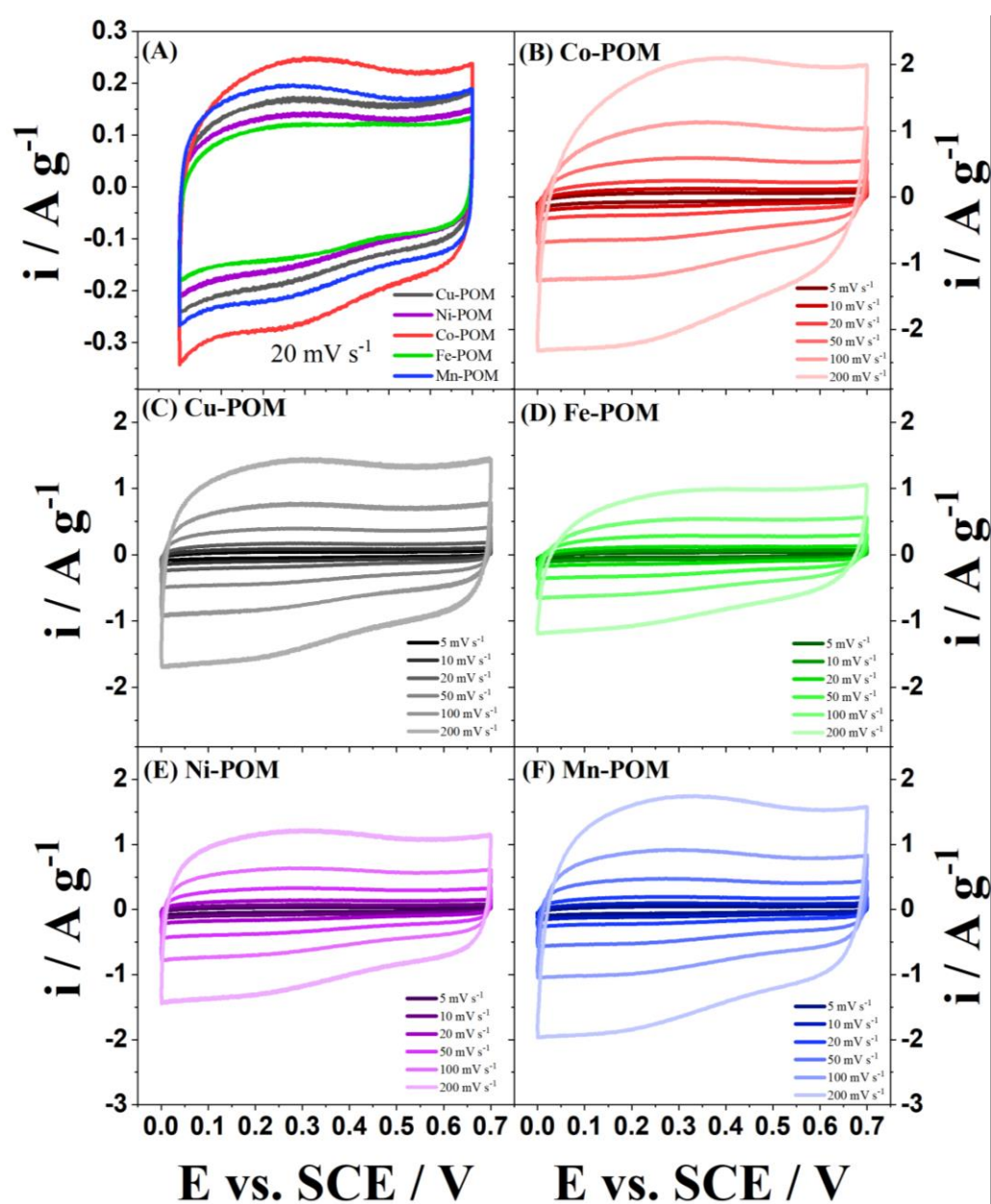


Figure S5. Voltammograms of TM-POMs at 20 mV s^{-1} (A) and of Co-POM (B), Cu-POM (C), Fe-POM (D), Ni-POM (E) and Mn-POM (F) at different scan rates in 1 M H_2SO_4 .